REMARKS

By this Amendment claim 1 has been amended to clarify the invention (see specification at page 2, lines 18-20 and lines 28-29), claims 3-18 have been amended with respect to their wording, and claims 19-21 have been cancelled. Since it is believed that these amendments suffice to place this application in an immediately allowable condition, entry is requested.

In the outstanding final Office Action the examiner rejected claims 1 and 3-21 under 35 U.S.C. 102(e) or 103(a) as being unpatentable over Oroskar et al. (newly cited) or under 35 U.S.C. 103(a) as being unpatentable over Barber et al.

These rejections are without merit.

Oroskar et al. describe a two step process that involves two separate reactors 10 and 20 (see Figure 1). As discussed at column 4, lines 13 to 15, the first reactor 10 comprises a catalyst bed containing a decomposition catalyst for decomposing hydrogen peroxide. This decomposition reaction decomposes hydrogen peroxide and generates heat and a first product stream comprising water and oxygen (see column 4, lines 17 to 19). The reaction in the first reactor 10, therefore, is summarized by the equation:

$$H_2O_2 \rightarrow H_2O_2 + 1/2O_2 + \text{heat}$$

In other words, although a mixture of ethanol and hydrogen peroxide is fed into the first reactor 10, no reaction between ethanol and hydrogen peroxide actually takes place.

From the first reactor 10, the product stream from the first reactor is directed to a second reactor 20 comprising a reforming catalyst. The reforming catalyst reforms the ethanol and water to form a second product stream comprising hydrogen, carbon monoxide and carbon dioxide. This reaction can be summarized by the equation:

$$H_2O + 1/2O_2 + C_2H_6O \rightarrow 4H_2 + CO_2 + CO$$

Again, therefore, a reaction between ethanol and hydrogen peroxide does not take place in the second reactor 20.

In contrast, claim 1 of the present application requires methanol to react with hydrogen peroxide in the presence of a catalyst comprising at least one group 8, 9, 10 or 11 transition metal. Such a reaction does not take place in the Oroskar et al. process. Although equation 2 at column 3, line 30, suggests that a reaction takes place, it is clear that this equation is merely intended to summarize the overall thermodynamics of the process. A detailed review of the actual chemistry is provided at column 4, lines 11 to 31, and it is clear from this description that the alcohol does not actually react with hydrogen peroxide in the presence of any of the catalysts. In view of the above, it is submitted that claim 1 is novel over Oroskar et al. Claim 1 is also considered to be inventive because there is nothing in Oroskar et al. to suggest that the reaction

between methanol and hydrogen peroxide can be carried out in a single step. In fact, this would go against the teachings of Oroskar et al. itself.

With respect to the Barber et al. patent, its priority application 60/503,077 does not describe or suggest any of the specific catalysts defined in claim 1. Although, the priority application suggests that a catalyst that encourages the formation of carbon dioxide is employed, there is no suggestion as to what catalysts should be used. The examiner has suggested that it would be obvious to use the catalysts of claim 1. However, there is nothing in '871 to suggest that these catalysts would actually work. A person of ordinary skill reading '871, therefore, would have no reason to select the catalysts defined in claim 1, as there is nothing in '871 to suggest that they would be suitable. Contrary to the examiner's suggestions, therefore, claim 1 is not obvious over Barber et al.

The examiner's prior art rejections should be withdrawn and claims 1 and 3-18 allowed.

Respectfully submitted,

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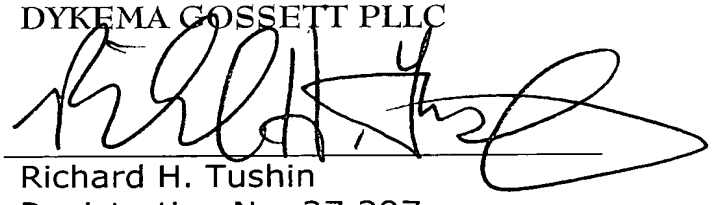
By: 

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